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INFLOW OF FUNDS AND NEW TECHNOLOGIES IN THE MINERAL SECTOR OF DEVELOPING COUNTRIES AND ECONOMIES IN TRANSITION: COMPLEMENTARITY BETWEEN THE ROLES AND OBLIGATIONS OF INVESTORS AND INVOLVED PARTIES OF HOST COUNTRIES CONSIDERING THE INTRINSIC VALUE OF MINERAL DEPOSITS AND ACCRUED BENEFITS

Assessment of benefits accruing to host countries from the inflow of funds and technology for mineral development

Report of the Secretary-General

SUMMARY

The present report was prepared in response to Economic and Social Council decision 1994/308. The report takes into account an assessment of host country benefits received to date and provides for suggested ways and means of facilitating complementarity between the roles and obligations of host Governments and of investors in the development of mineral resources within the framework of sustainable development.

Special attention has been focused on major areas of change since the second session of the Committee on Natural Resources, including, inter alia, the deepening of institutional structures required to support private investment and the corresponding positive changes under way in the financing of mineral resources; private sector response at the local level to host Government social policy concerns; and the unique approach taken by a number of mining companies in the development and training of personnel world wide.

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The report also underscores the continuing importance of the United Nations system, the World Bank and International Finance Corporation (IFC) system and other multilateral and bilateral agencies, utilizing a multi-disciplinary approach in the ongoing formulation and implementation of mineral resource and related area policies; in the reform of legal, regulatory and fiscal systems; in the provision of direct technical assistance; and in the role of facilitating the development of sustainable institutional and physical infrastructure necessary to support an environment conducive to meeting the needs of private investors while simultaneously enhancing the ability of host Governments to meet socio-economic objectives.

Recognition has also been given to the overall importance of involving local communities in the planning of new mines. An executive of a major international mining firm phrased the concept well, "the real market is not the consumer of our product, but rather the consumer of our presence".

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INTRODUCTION

1. The present report has been prepared in response to Economic and Social Council decision 1994/308 and upon the request of the Committee on Natural Resources at its second session from 22 February to 4 March 1994 contained in its resolution 2/10. The report takes into account an assessment of host country benefits received to date and provides suggested ways and means of facilitating complementarity between the roles and obligations of host Governments and of investors in the development of mineral resources within the framework of sustainable development.

2. Since the second session of the Committee, in February and March 1994, developing countries and countries in transition have seen an expansion of the inflow and form of funding and technical expertise from the international private sector. Fundamental to this expanded inflow has been the increased confidence generated within the private sector, including the banking and insurance sectors, as a result of the willingness of country administrations to demonstrate a continued responsiveness to private investor concerns in the area of policy development, in the development and enhancement of stable and transparent mining and investment codes, and in the development of supportive administrative frameworks. The United Nations system, the World Bank and International Finance Corporation (IFC) system and other multilateral and bilateral organizations have continued to provide invaluable support in the formulation of national mineral sector policies, in the enhancement of legal and fiscal systems, in facilitating forums for multi-disciplinary dialogue and in the deepening of necessary institutional infrastructure. The consultative and responsive multi-disciplinary approach has been well received and maintaining it is increasingly important for both developing countries and countries in transition in order to gain the support of long-term investment and the accompanying technology transfer.

3. Directly tied into this process has been the continued dissemination of individual country information through the very successful investment seminars and round-table discussions which have enabled private companies, financial institutions and technical advisers to gain a better understanding of various countries and their risk factors, and to develop good working relationships with private and government officials and the multilateral and bilateral aid institutions, all with a view towards creating a sustainable economic and environmentally sound base of operations on which to build within the various countries.

4. There are perhaps three very significant movements under way since the last session. First, is the very positive movement stemming from increased confidence generated by having more stable frameworks in place - that of a changing of investment structures accompanied by a broadening of participants in individual investments. Rather than the initial very simple structure of a pure equity investment by an individual foreign investor where risk was self insured, a number of joint venture investments have concluded and have been structured to include a mix of equity and non-recourse project debt, with insurance provided by either private or agency insurers. Battle Mountain's Kori Kollo project in Bolivia and Zarafshan-Newmont Mining's gold project in Uzbekistan are examples

of this form of structuring. Second, is the movement towards increased globalization of broader issues supported by various independent and industry groups including inter alia, environmental issues and social issues such as including the human rights of indigenous people and artisanal workers. Third, and perhaps most significant, is the recognition that in order to succeed in the long term and produce a win-win situation, input is required from many participants in addition to host Governments and foreign investors. There is a requirement to balance the needs of all parties and to develop physical, social and institutional structures which create and support a solid environment for long-term sustainable economic and social development. An executive of a major international mining firm focused this requirement: "the real market is not the consumer of our product, but rather the consumer of our presence".

5. A commonality is developing with respect to the concepts that mining projects should benefit both investors and the host country, that Governments should design transparent regulatory and fiscal regimes which achieve investors' objectives of profitability but also at the same time achieve the Governments' objectives of revenue generation and economic and social development. In particular, concerning the host country, the mining project should benefit the economy as a whole, encourage and develop local industries to meet the needs of the people and should offer an opportunity for education and training of nationals and ensure transfer of technology. It was also recognized that the private sector objectives may not be harmonious with host Government objectives, but mechanisms should be put in place to support complementarity of roles. 1/, 2/

I. AN ASSESSMENT OF HOST COUNTRY BENEFITS ACCRUED TO DATE

A. Overview

6. In the mid-1970s, foreign and private investment in the mining sector in many jurisdictions including Africa, Latin America and the Asia and Pacific region, was politically identified as encroachment on national sovereignty and an instrument of foreign domination over national economic development. Such investment was also thought to lead to an excessive drain on foreign exchange, a deterrent to industrial development and distortion of prices, actions detrimental to a developing country.

7. The above trends were rapidly reversed during the mid-1980s. Most countries were dissatisfied with their state owned, controlled and operated mining companies, which failed to achieve their purposes or did so at high cost (they absorbed a large share of government budgets in the form of subsidies or capital infusions). Moreover, they were faced with severe financial constraints (inadequate local funds, difficulties in raising loans from international markets and severe debt burdens due to restrictions on commercial bank lending). Thus, foreign investment oriented mineral projects became attractive, divestiture and restructuring of State-owned companies commenced and the governments of a number of countries began shifting development strategies towards relying on the private sector to lead economic growth. In line with this, the majority of African, South-East Asian and Latin American countries have adopted policies designed to improve the environment for private

investment. Since 1985, over 75 countries have introduced or are in the process of introducing new mining laws/policies.

8. Since the last session in 1994, the United Nations system, the World Bank and IFC system and the multilateral and bilateral organizations have continued to provide assistance to developing countries and countries in transition in the area of policy development, the implementation of laws, regulations and enforcement procedures that are considered to be fair and well-thought-out and to provide both consistency and stability for planning purposes; in upgrading geological information; in hosting regional mineral investment promotional forums attended by government officials and representatives of international mining companies and relevant agencies; and in capacity building and the training of nationals to monitor the activities of mining companies.

9. Reforms are slowly taking hold. The move by a number of countries towards a more stable business environment has increased the level of confidence within the international private business and commercial sectors, including commercial lending institutions and suppliers, thus facilitating the movement towards creating more stable, long-term investment situations. Vigorous adjusters, like Ghana in Africa and Chile in South America, are being joined by a host of countries including those with economies in transition such as Uzbekistan and Kazakstan, where the initial results for attracting investment are high, particularly in the gold sector. While there is still much left to be done, the countries where the natural resources are most prominent and where the reforms are most advanced are beginning to display perceptible improvements in their business and social environments including the associated multiplier effects. The private sector is slowly responding through increased financial investment, the development of primary and ancillary industries and businesses around mining, the implementation of education and training programmes for local workforces, the transfer of technology and the deepening of institutions required to sustain growth. However, while most developing countries and countries in transition are enthusiastic about encouraging foreign investment in mining, not all are capable of making the necessary macroeconomic changes and implementing the necessary legal and fiscal regimes that would be acceptable to the international mining community in a timely manner.

B. Supportive frameworks and attraction of capital

10. The initial results of implementing supportive frameworks as a means to attract foreign investment are evident in many jurisdictions within both the developing countries and economies in transition. Also evident, is the importance of multilateral agencies in providing financial support and risk mitigation in order to provide stability to complex deal structures.

11. Four examples are cited in this regard: Viet Nam, Ghana, Uzbekistan and Bolivia.

Viet Nam

12. Since the late 1980s, the Government of Viet Nam, with assistance from the United Nations and other advisers, has been consciously working towards

developing a regulatory framework to promote and support investment in its mineral sector. The country has potential for base metal, precious metal and industrial mineral development, and has known reserves of coal. In 1989, the Government enacted a Mineral Resources Ordinance, which is the present regulatory framework for control of mining activity. In 1990, an Atlas of Mineral Resources was published by the ESCAP secretariat which assisted the country in bringing its mineral resource potential to the attention of the international mining community. In 1991, draft Mining Laws and regulations aimed at providing a framework for foreign investment were formulated and subsequently discussed at a round-table conference, convened in Hanai in 1991 by ESCAP, and attended by representatives from private mining companies, Vietnamese officials and relevant United Nations agencies. The Mining Law was then developed under a project funded by the United Nations Development Programme (UNDP) executed by the Department for Development Support and Management Services of the United Nations Secretariat and co-financed by the Government of Australia. During this process a second round-table conference was held. The draft mining law was submitted to the national Assembly in early 1996. With the passage of this Law and the development of a fiscal framework, it is envisaged that international mining companies will increase activities in Viet Nam.

Ghana

13. Gold mining has played a significant role in the economic development of Ghana for many years. Ghana is tenth in the world in gold production and in Africa is second only to South Africa. Since 1979, conscious efforts have been made to liberalize and privatize the Ghanaian economy with an emphasis on fiscal and monetary responsibility. Through the assistance of the International Monetary Fund (IMF) and other supportive multilateral agencies and donor nations, efforts to establish appropriate regulatory and fiscal frameworks to encourage private investment have been made. In 1986, the Minerals and Mining Law was promulgated embodying the initial terms and conditions required to support investment. Subsequently, in an effort to broaden political stability, the IMF and donor nations implemented multi-party democracy in 1991.

14. As a result of the efforts within Ghana to devise frameworks supportive of private investment, including vigorous adjustments in socio-economic policy in concert with the IMF and the IFC, the underlying economy has shown improvement, and the Government has received tangible economic benefit for subsequent redistribution.

15. In 1993, GDP stood at US$ 7.256 billion; GDP growth rates were 4.8 per cent and 3.8 per cent for 1993 and 1994, respectively. These are currently estimated to reach 5.5 per cent and 5.0 per cent for 1995 and 1996, respectively. The Ashanti Goldfields Company Limited, which produced 853,740 ounces of gold in 1994 (of an overall total of 1,409,606 ounces for Ghana) was publicly floated in 1994, yielding US$ 454 million for the Government. Ghana's exports reached US$ 1.219 billion with gold contributing US$ 548 million. The industry depth is also improving with key private investors in gold, such as Lohnro Plc, United States Pioneer Group, Golden Shamrock and Gencor. As a result of increasing confidence in Ghana, the existing IFC financing for Ashanti was recently replaced by a revolving dollar/gold facility structured without political risk insurance or a senior corporate sponsor guarantee. As Ghana moves forward,

assuming no substantial downturn in the general economic and political situation, the basic legal, tax and accounting frameworks are in place to support investment. Further fine-tuning is desirable and development of appropriate environmental legislation would be seen in a positive light.

Uzbekistan

16. Uzbekistan is well endowed with mineral resources having 93 types of mineral commodities concentrated in 850 deposits and 1,600 occurrences. Uzbekistan possesses world class deposits of gold, copper, lead and zinc and is the second largest gold producer among the Commonwealth of Independent States (CIS) with the annual output of between 60-80 tons bringing the revenue of around US$ 790-910 million per year. Other major deposits are natural gas, tungsten, natural salts, aluminium and various types of industrial minerals and construction materials.

17. In line with a new economic development and reform policy proclaimed on 21 January 1994, the Investment Round Table on International Business Prospects in Uzbekistan was jointly sponsored in Tashkent from 9 to 11 March 1994 by the Government of Uzbekistan in cooperation with the United Nations Conference on Trade and Development, the United Nations Industrial Development Organization and UNDP. The Investment Round Table provided a platform for constructive dialogue among executives of transnational corporations, high level government officials of Uzbekistan and senior ministers as well as executives of investment promotion boards of neighbouring Asian countries. The central purpose of the Investment Round Table was to sensitize high-level decision makers on major issues relating to foreign direct investment and to put them in a better position to conduct and supervise negotiations with transnational corporations within the context of attracting foreign direct investment. As a direct impact of the meeting, a new Foreign Investment Law was enacted by the Supreme Council of Uzbekistan on 5 May 1994, and was followed by the new Mining Law enacted on 23 September 1994.

18. A large number of mining companies and financial institutions are now showing a keen interest in investing in economically feasible mining ventures. The target minerals are mainly gold and copper with other base metals, such as lead and zinc. An Investment Promotion Seminar in the Mining Sector of Uzbekistan was organized by the Government with assistance from the United Swiss Bank in Tashkent in 1992. This resulted in the setting up of two mining ventures with Newmont Mining Corporation and Lohnro Plc for gold mining projects in Uzbekistan with a level of investment of US$ 220 million and US$ 250 million respectively. As a result of the project economics and infrastructure, the operating and technical expertise of Newmont, the structural reforms in Uzbekistan and assistance provided by the (then) newly formed European Bank for Reconstruction and Development (EBRD), the Newmont-Zarafshan project was able to be financed internationally, using a syndicate of 13 international banks and the EBRD, with political risk insurance provided through the United States Overseas Private Investment Corporation (OPIC) and MIGA. 3/ It was the first internationally syndicated loan for a country of the former Soviet Union and the first instance of EBRD co-financing with commercial banks. The financial structuring of the joint venture subsequently received the accolade of "1993 Deal of the Year" from Project Finance International magazine. In its progress

towards developing a market economy, the Zarafshan project was seen as strategically important, as the country will derive tangible economic and social benefits from this enterprise.

19. In order to promote further foreign investment in the mining sector of Uzbekistan, the State Committee on Geology and Mineral Resources with the assistance of mining and legal consultants has just completed documentation for a tender for mining of two other major gold deposits in Uzbekistan. It is expected that the level of foreign investment in the gold mining industry of the country by the year 2000 will then far exceed US$ 1 billion and this will make it possible to double the current gold production of 80 tons to 160 tons, leading Uzbekistan to the rank of the five top gold producers in the world.

20. Uzbekistan has given high priority to creating sectoral development concepts and guidelines for the restructuring of its mining and metallurgical industries and for the prevention and mitigation of environmental damage related to the mining sector. It wants to strengthen its natural resources base where possible and set standards to guide development and to attract the private sector, both national and foreign. The establishment of a legal, fiscal and regulatory framework conducive to foreign investment, safety in coal mining, management training, privatization of mining enterprises issues, the introduction of environmentally-sound pollution prevention technologies and the drafting of an internationally acceptable environment law are all high priority areas of interest. Uzbekistan is also placing strong emphasis on the exploration and development of its mineral resources, particularly gold and base metals. Along with the above, the government is in urgent need for in-depth economic analysis of the sectoral demand and export requirements for various mineral commodities such as potash, phosphate, fluorspar, soda ash, base metals, rare and rare-earth minerals.

Bolivia

21. Bolivia is a 170-year-old independent, land-locked country with great ecological diversity located in the heart of South America. The Government is a representative constitutional democracy with executive, legislative and judicial branches. The country is extremely poor with the GDP per capita in 1994 at approximately US$ 800. Bolivia has a work force which is either already highly educated and trained or is very willing and able to become so.

22. Since 1985, Bolivia has enacted a series of laws which has facilitated attracting foreign investment, including an Investment Loan which provides 4/ equal opportunities to foreign investors; a Mining Law, which includes tax provisions; and there is unrestricted convertibility and flow of foreign currency. Bolivia has also enacted a general environmental law and is now working on specific regulations that will apply to mining.

23. In 1993, the country elected a new President who is instituting El Plan de Todos (the Plan for Everyone). The principal points are: the Capitalization Programme, which is Bolivia's form of privatization in which private companies commit to work programmes in return for 50 per cent ownership and operating control of major State entities; the Popular Participation Plan, a way of

decentralizing government, money and controls; reform of education; judicial reform; and the Plan for Sustainable Development.

24. Most of the preconditions for reform are now seen to be in place and are being appreciated by foreign businesses, local businesses, international creditors and donors. In 1991, there were only four foreign mining companies in Bolivia. The count now exceeds 40, including Battle Mountain, RTZ, Kenmore, Billiton, Barrick Gold, Orvana, Echo Bay, Teck etc. The GDP is growing at a rate of 4 to 5 per cent and local inflation is in control in the 8 to 10 per cent range. In addition, the country continues to work with key advisers and agencies such as the IMF and World Bank.

25. Probably the most significant mining development as a result of the changes has been the Kori Kollo joint venture between Battle Mountain and Zeland. The Kori Kollo mine had been in operation since 1985. In its first phase, it was an oxide heap leach facility producing up to 50,000 ounces of gold per year in concentrate. Through Battle Mountain's technical and operating skills and financial resources, a sulphide facility was developed. In 1994, the mine produced 313,000 ounces of gold and 1 million ounces of silver, and had the distinction of becoming the largest gold mine in South America.

26. It is also important that owing to the structural changes in Bolivia, Battle Mountain provided bridge financing, with senior loans subsequently provided by the IFC, which is a World Bank affiliate; by OPIC; and by the Corporación Andina de Fomento (CAF), a Pan-Andean group of which the Bolivians own a part. Other benefits to Bolivia include transfer of technology to recover gold from sulphide material, operating skills and the development of local social programmes through the development of the Fundación Inti Raymi.

C. Socio-economic development

27. In certain of the more advanced developing countries, the early introduction of radical reforms into mineral development policies and the associated fiscal and regulatory environments aimed at attracting private funds into the mining sector and at securing foreign expertise to improve the management and efficiency of State-owned, controlled and operated companies, are slowly starting to show benefits with respect to impact on the socio-economic area.

28. In Chile for example, a country which has moved to a truly export market economy, social and economic indicators have improved steadily. 5/ These have been supported by sustained output growth which has, since 1990, allowed the Government to place a strong emphasis on social policy, including poverty alleviation.

29. In terms of social indicators, the unemployment rate, which surpassed 20 per cent in the worst moments of the recession of the early 1980s fell to about 6 per cent in 1994; the percentage of the population below the poverty line declined to 29 per cent in 1994 from 45 per cent in 1987; and key indicators of overall social welfare including infant mortality, life expectancy, malnutrition, adult literacy and educational attainment have

improved, all placing Chile in a favourable position relative to other middle income economies.

30. In terms of economic indicators, inflation has dropped to just below 9 per cent in 1994, from about 20 to 30 per cent in the early 1980s. There has also been noticeable expansion in financial sectors including:

(a) An increase in financial assets to more than 80 per cent GDP, with deposits in private pension funds accounting for nearly 50 per cent of the total;

(b) An increase in the national savings rate to more than 25 per cent of GDP from 12 per cent in 1985;

(c) A strong balance of payments resulting from rapid export growth;

(d) An increase in net international reserves to in excess of US$ 14.3 billion by the end of September 1995 - a level more than twice the level of public sector external debt;

(e) External debt to GDP ratio now in the region of 4 per cent from 117 per cent in 1986.

31. In addition, there has been a deepening of the overall economic base with diversification into sales of non-traditional products offshore such as manufactured goods, fruit and fish products.

32. During this same period, the Government has actively pursued a social policy intended to alleviate poverty and to reverse the sharp declines in ratios of expenditures on social services and social infrastructure to GDP. This has been achieved by increasing pensions and social subsidies; undertaking major programmes in basic education, job training, health infrastructure and project funding for the poor; and by reforming labour legislation including raising minimum wage rates. Special care was taken to ensure that social policy did not undermine macroeconomic stability. In order to maintain public finances on a sound footing while simultaneously meeting social commitments, the Government implemented tax reforms by widening the tax base; increasing tax rates; restructuring tax brackets to increase progressivity of personal income tax; and by raising excise taxes to finance an increase in pensions and educational spending.

33. In less mature situations, where the supportive social and economic infrastructure is not as advanced, some foreign companies are working at the community level to provide direct social and economic support that should become self-sustaining. In Bolivia for example, as part of the joint venture's effort to support the local community surrounding the Kori Kollo project, the Fundación Inti Raymi was formed. The organization is funded and nurtured by Inti Raymi, with some funding from others. Its goal is to provide education, vocation, nutrition, animal husbandry and social improvement for the people in the area of the Kori Kollo mine.

D. Technology transfer

34. While heap leach technology is well proven as a means of extracting gold from low grade deposit, its application has, until recently, been resident with companies operating in North America and Australia. The transfer of this technology to developing countries and countries in transition as a result of change to the respective business environments is noteworthy.

35. Exploraciones Eldorado, S.A. de C.V., the Mexican subsidiary of Eldorado Corporation Ltd., a Canadian junior mining company, is currently operating a 50,000 oz/year gold mine in the State of Sonora, which uses heap leach technology. A second gold mine, applying this same technology, is under construction and is expected to commence production in August 1996 at a rate of approximately 25,000 oz/year. Without the transfer of this technology, which allows for the economical exploitation of very low-grade ore bodies, neither deposit would be in development. The Company currently employs a local work force of approximately 200 people at its operations and, owing to the project economics and operating environment now in place in Mexico as a result of structural reforms, has recently put in place a US$ 20 million credit facility to support further development of its Mexican operations. Additional small low-grade deposits are now being mined by Mexican subsidiaries of North American mining companies employing this same technology.

36. Perhaps one of the most significant applications of transfer of heap leach technology is in the Zarafshan-Newmont Gold Project in Uzbekistan, at a project cost of US$ 150 million. Principally, heap leach technology is being employed to re-treat low-grade ores already stockpiled on surface, adjacent to one of the largest gold mines in the world, which would otherwise have remained untreated.

E. Training

37. Critical to the ongoing ability of companies to operate efficiently in developing countries and economies in transition is the availability of a competent workforce and the ability to utilize technology advances at all levels of operations. At Exploraciones Eldorado's operations, Mexican nationals are being trained to operate these properties to North American standards in all areas, including technical, geological, accounting, treasury, planning, management, security, safety, language skills etc., under the guidance of experienced nationals and expatriates, with the view to transferring personnel to other opportunities within the Group in Mexico and, in the future, to other opportunities world wide. BHP, a major Australian based international mining corporation with operations world wide, is spending millions of dollars on management training programmes which will not only develop host country nationals to senior management levels in the host country, but is designed to train host country nationals to become "expatriates" in other geographic jurisdictions outside the host country of origin. Training is essential to the lifeblood of mining organizations operating locally and in international jurisdictions.

F. Environmental protection

38. The 1990s have seen the trend towards the globalization of environmental legislation and standards in industrialized countries, developing countries and economies in transition. This trend has been led by the international mining companies and financial institutions, multilateral organizations and lending agencies; and developing countries and the economies in transition themselves.

39. A significant policy shift was seen at the 1992 United Nations Conference on Environment and Development in Rio de Janeiro. The most important result of this Conference was the world-wide change in environmental awareness, leading to the adoption of the concept of sustainable development. The conference aimed at building and furthering the global partnership towards taking a balanced and integrated approach to environment and development questions. This approach has been reinforced by subsequent international conferences.

40. Governments of developing countries and economies in transition are continuing to address the need for standards by developing and implementing environmental regulatory systems. Assistance for this is being given through various channels, including the World Bank and other multilateral and bilateral organizations. The Department for Development Support and Management Services of the United Nations Secretariat is providing support through the organization of workshops aimed at increasing the consideration of the environmental aspects of mining activities. Topics addressed have included pollution-control technologies, waste disposal and air-quality monitoring, site reclamation, environmental legislation, environmental management planning and environmental auditing The result is a further homogeneity of standards world wide.

41. Concurrent with the development of policy through multilateral institutions is the ongoing efforts of the International Council on Metals and the Environment, which comprises the majority of the major companies involved in the international mining community. The group was initially formed as a central voice for the international mining community on environmental issues, and it provides information to Governments and multilateral institutions on issues related to the development and coordination of world-wide environmental standards for the mineral resource industry. Members undertake to follow the same environmental standards as their home country regardless of the jurisdiction of operation. This requirement to meet or exceed home country requirements is further reinforced by the project finance covenants and guarantees related to environmental compliance, and it responds to the global pressures of highly organized environmental groups.

42. While environmental legislation is becoming more homogeneous, more focused and more site-specific, monitoring and implementation by individual countries still remains an outstanding issue. It is important to focus, as a priority, on formulating specific legislated environmental policies and guidelines in each country and to assist in capacity building to achieve a monitoring process in order to ensure that companies will be properly monitored and that local communities will be protected.

II. PERCEIVED ROLES AND OBLIGATIONS OF HOST GOVERNMENTS

43. In order to provide an enabling environment to encourage and maintain long-term private investment on the one hand and meet the socio-economic expectations of the country on the other, host Governments are inevitably finding themselves in a conflict of interest situation. Governments will therefore need to position themselves to find complementary mechanisms to facilitate meeting the expectations of these multiple constituents. Host Governments are expected to provide stable and transparent regulatory and fiscal environments including supportive administrative frameworks while at the same time providing acceptable socio-economic environments.

A. Private sector expectation

44. In order to attract and maintain long-term private sector mining investments, the role of the Government is changing from that of regulator, owner, operator of a decade ago, to that of regulator, promoter and facilitator. The private sector expects host Governments that are serious about attracting long-term investment to operate within a sound macroeconomic environment; offer a modern legal and fiscal framework; be prepared to participate in ensuring that environmentally related obligations are predetermined and sustainable mining practices are followed; and offer competent public mining institutions. 6/ A Government's policies should recognize that there are a number of characteristics unique to the mining industry, including, inter alia, that the industry is high risk, is capital intensive, a price taker and remotely located; that mines have finite lives and therefore restoration requirements; and that there is generally State ownership of a resource. 7/

45. In this regard, a sound macroeconomic environment should offer prudent and stable policies supportive of an open, export-oriented business environment, including the right to market products externally and the right to import equipment and supplies, assured access to foreign exchange at free market rates, and the ability to repatriate profits and keep funds offshore.

46. The legal and fiscal frameworks should provide assured access to land for exploration, clear and transparent rules and procedures, security of tenure from exploration through production, a stable and equitable fiscal regime, equal opportunity to foreign investors and access to international arbitration. In this highly competitive international arena for securing mineral sector investment, particularly from multinational companies, the need for stable, transparent, straightforward legislation and policies cannot be over-emphasized. The global applicability of this principle is reflected in the fact that since 1985 over 75 countries have introduced or are in the process of introducing new mining laws and policies.

47. In addition to offering a sound economic environment and a modern legal and fiscal framework, host Governments need to establish a sound environmental framework. This is extremely important for international mining companies whose home country directors can be personally held accountable for breach of environmental regulations, who must provide corporate guarantees and warrantees under the terms and conditions of project financing and who are increasingly

under pressure from highly organized environmental groups. The key criteria include the need to have predetermined environmentally related obligations, identification of anti-mining lobby groups and host Government involvement in ensuring environmentally sustainable mining practices. This can be accomplished by introducing a consultative process with involved stakeholders, introducing necessary laws and regulations in consultation with world-wide industry and multi-disciplinary groups, developing technical norms and standards, collecting environmental baseline data and protecting locally affected groups and indigenous people.

48. As a final area of concern, the private sector expects host Governments to offer competent public mining institutions and look to strengthening and deepening public institutions to support investment in the mineral sector. This might include, under the Ministry of Mines, a mining department, geological survey office and an environmental office. Offices should be staffed by competent individuals, be adequately funded and the mandate, authority and accountability should be clear. Intergovernmental relationships and responsibilities should also be readily transparent.

49. In terms of a detailed framework of reference, criteria for assessing investment potential of individual countries by mining companies fall into a number of recognized categories. A more detailed list of criteria is included in annex I. Over the past five years, many international mining companies have been successful in entering into agreements for exploration and mining and the criteria adopted by them in decision-making have varied from one country to another.

B. Local expectations

50. Local population concerns highlight improvement of living standards, access to opportunities, increase in social equity and environmental consideration. In particular, concerning the host country, the mining project should benefit the economy as a whole, encourage and develop local industries to meet the needs of the people and should offer an opportunity for education and training of nationals and ensure transfer of technology.

51. The host Government's role should include the strengthening of social institutions to increase social equity; achieving sustainable economic growth including extracting an appropriate "economic rent" through fiscal policy and/or direct royalty at the operational level; and achieving environmental sustainability. Social policy and programmes geared to increasing social equity might include: poverty alleviation, basic education, job training, health infrastructure, project funding for the poor, labour equity, including minimum wage and job security, and movement towards pension provisions.

III. PERCEIVED ROLES AND OBLIGATIONS OF INVESTORS

52. Private investors, like host Governments are responsible to more than one constituency. Private investor constituents include, inter alia, shareholders, employees, host Governments, the communities in which they operate, bankers, suppliers, customers etc.

53. The overall responsibility of the investor is to provide the necessary skills to operate competently in many areas, including the technical, commercial, legal, environmental and safety fields and to be the prime arranger of project financing. In return, it is expected that the investor should be allowed the opportunity to operate profitably and repay outstanding principal and interest and achieve returns on the investment of capital and management in order to reward shareholders for their support and risk-taking.

54. While investors, as good corporate citizens, have an obligation to operate responsibly within technical and legal frameworks, they also have a moral and ethical responsibility to their employees to provide training, a safer work environment and fair and equitable compensation; and to support various industry groups and committees within the host country.

55. At the local operations level, investors are increasingly taking on the responsibility for labour force, job training and enhancement; technology transfer of skills, such as engineering, treasury functions and management, in addition to process technology and geoscientific technology; and health care. In addition, at the local community level around mine-sites, companies are providing enhancement to existing schooling programmes, health-care programmes - both medical and dental, including preventative care programmes and support through provision of social workers and also providing physical infrastructure such as water-wells, schools, health clinics and recreational facilities.

56. Many companies are realizing that the best political risk insurance available is the full support of the local community in which they work. Governments at the local, state and federal level are subject to change. Assisting in capacity building of the community, including supporting local businesses is becoming more commonplace. Another key element in attaining the goal of sustainable development is having effective participation in the decision-making process of local communities that surround a potential mine. The World Bank recently conducted a review of 20 to 25 projects and concluded that effective public participation resulted in the sustainability of long-term objectives of both communities and projects.

IV. POSSIBLE MECHANISMS AVAILABLE TO SUPPORT AND FACILITATE THE COMPLEMENTARITY OF PARTICIPANT ROLES AND OBLIGATIONS

57. A number of possible mechanisms are available to support and facilitate the complementarity of participant roles and obligations. These are described below.

A. International multilateral and bilateral programmes

58. The United Nations system, World Bank and the IFC system and other multilateral and bilateral organizations have provided invaluable assistance to industry and host Governments in respect of mineral resource technical support and advice; training of national staff in all skills required in mineral resource development; hosting of regional promotional round-table forums to facilitate dialogue between industry, Government and facilitating organizations; institutional structuring and reforms; capacity building; provision of research on trends in mineral, fiscal and legal policies; and for commodity supply and demand studies. In addition, as project funding in emerging markets requires a multi-disciplined approach, including the cooperation and coordination of foreign investors, commercial banks, multilateral and bilateral banks and agencies, the multilateral and bilateral banks and agencies have supplied much needed risk mitigation through co- and re-insurance, through lending of structured finance and through provision of senior loan guarantees which have enabled private investors and local joint venture partners to invest in projects in various jurisdictions. The World Bank and IFC system also supplies funding and technical support for deepening of country institutional structures which assist in developing the long-term sustainability within the financial and socio-economic environment.

B. Government-industry groups

59. The Chamber of Mines, or equivalent groups, have historically provided an effective industry forum within individual countries and/or provinces for the exchange of views, the lobbying of industry concerns to Government and as a means of dealing with common issues arising within the industry. Supplemental to this forum has been individual commodity group forums at an international level to facilitate technology transfer, market intelligence and to deal with specific issues arising within the industry. The Gold and Silver Institute, the International Lead and Zinc Study Group, the World Gold Council and the International Council on Metals and the Environment are examples of groups formed to facilitate transparency in the market, exchange views and deal with specific industry issues such as environmental sustainability. In addition, national and international technical groups such as the Society of Mining Engineers (SME) in the United States, have provided a valued forum for technology and information sharing.

C. Multi-disciplinary bilateral Government-industry groups

60. Multi-disciplinary bilateral Government-industry groups have been active for many years as OECD countries, joined together to facilitate trading relationships and establish common understandings. The Canada-Korea Business Association is an example, where professionals, including lawyers, accountants, engineers and businessmen from many industries, including mining, forestry, banking etc., meet annually, alternating between Canada and Korea, to discuss respective market, political, trade, shipping and other issues with a view to broadening trading and business relationships

D. Social policy management contracts and foundations

61 It is increasingly recognized that the principles of community involvement in mining activities are fundamental to the concept of sustainable development, which requires a balance of environmental, social and economic factors within the input of all concerned. Co-management of environment and resources and involvement in decision-making are key elements that affect the community. Corporate managers are not the only ones with a stake in sustainable mining policies. The "stakeholders" include workers, neighbours, investors, community and the environment itself. Mining companies have vested interest in developing supportive relationships within the local community to include job-training, health and welfare programmes, education and to assist in the development of local enterprise. For example, in Bolivia, the Inti Raymi Foundation was established to meet these needs with respect to the Kori Kollo mine. One means of addressing communities' concerns is through the development of participation agreements. In order to ensure sustainable and stable operations of mining companies, it is essential that a new "social contract" be negotiated between communities and mining companies, to ensure that communities obtain new terms and conditions which better safeguard their long-term interests.

62. International mining companies are now aware that it is essential that a working relationship be maintained with the communities if they wish mining operations to continue smoothly. The Declaration of the World Summit on Social Development 8/ of March 1995 reiterates the importance of governance, through a participatory, transparent and accountable administration. In a typical minerals agreement, a tripartite arrangement with equal representation from the corporation, the local Government and the community is perhaps the best possible supervisory mechanism. Such a mechanism is increasingly included in good neighbour agreements.

E. Policy formulation, legal structure

63. Institution building within individual countries is critical to the development of social structures, sustainability of financial flows, transfer of technology and corresponding real economic wealth. The ongoing policy formulation with respect to mineral tenure development, investment codes, legal and fiscal frameworks, environmental management and social development is essential, along with the subsequent formalization through the legal system. The process has in many instances only begun, particularly for many economies in transition, and is likely to be one of the key elements in supporting complementarity between host country objectives and investor objectives.

V. RECOMMENDATIONS

64. It is recommended that the following mechanisms be used to support developing countries and countries in transition in setting up and maintaining the necessary framework to encourage foreign and local investment in their mineral resources, in such a manner as to facilitate long-term sustainable development within their domestic mining sectors and their economies.

A. International multilateral and bilateral programmes including advisory services

65. The United Nations system, the World Bank and IFC system and other multilateral and bilateral agency organizations should continue to be fully utilized in order to:

(a) Provide funding for research on and assistance in the development and implementation of appropriate mineral resource, investment, legal, fiscal environmental and other related policy and procedural frameworks to improve the enabling environment in order to attract and secure long-term private investment;

(b) Assist in the development of more streamlined and competent institutional frameworks for mining including, under the Ministry of Mines, a mining department, geological survey office and an environmental office with the individual mandates, authorities and accountabilities clear and readily transparent;

(c) Provide technical assistance in the compilation of individual country geological resource data including geological surveys, maps, centralized computer data bases, mining title management systems based on the Geological Information System (GIS) etc.;

(d) Provide access to in-depth market research reports, including analysis of sectoral supply-demand and export requirements, price forecasts etc., for various mineral commodities on an as needed basis;

(e) For countries in transition, provide research and background information on private lending institutions and on private mining companies;

(f) Provide mining, financial and legal assistance in the structuring and documentation process for privatizing mining assets and in the negotiation of mining and mineral investment agreements;

(g) Assist in the negotiation and preparation of export policies, regional and bilateral trade agreements and tax treaties;

(h) Conduct multi-disciplinary international round-table forums with host Government officials, international mining companies, banks, funding institutions, suppliers, technical advisers, senior agency lenders and advisers, non-governmental organizations etc., as a means of education and idea exchange, and offering a forum to deliberate on issues of concern and as a means for all parties to gain a better understanding of various countries, their risk factors and their geological/mining potential;

(i) Assist in the development of appropriate social and economic policies around the issue of education, health, poverty alleviation, human rights, rights of artisanal workers;

(j) Assist in training of national staff in the many areas associated with mineral resource development;

(k) Assist host Governments in setting up a regulatory framework and subsequent mechanisms to monitor environmental practises and degradation with respect to mining, as well as capacity-building programmes for the government staff;

(l) Assist with the monitoring of investment trends;

(m) Continue to support the role of multilateral and bilateral banks and agencies in the provision of structured finance including loans and equity; senior lender guarantees; political risk insurance and re-insurance; in the development of small supporting businesses, through soft loans; and in the development of internal financial institutions through loans and guarantees and the introduction of stock exchanges etc.

B. Government-industry groups

66. Government and local business representatives should be encouraged to participate in national and international industry and technical groups as a means of facilitating technology transfer, gaining market intelligence raising and keeping apprised of industry-wide issues and concerns and as a means of formulating long-term relationships with other industrial, government and financial leaders. Local and national Chambers of Mines should be fully activated and supported in order to act as an effective vehicle for handling industry-wide concerns and effectively working with the appropriate governmental bodies.

C. Social policy management contracts

67. It is now widely recognized by foreign investors that local communities must be involved in the decision process regarding development of mineral resources in their own communities, and that sustainability comes with the development of local social, physical and business infrastructure, including the development of local enterprises. The best political risk insurance is the support of the local community. Governments, both regional and federal, change over time. Increasingly, technology transfer, contribution towards health, education and job training can be effected at the local level. This is being recognized in practice by many mining companies now operating in developing countries and economies in transition. For some, informal programmes have been started whereby scholarships are provided to promising high-school students in order to pursue education in neighbouring towns or outside the state or country at recognized universities; local health facilities are upgraded to include hospitals, doctors and first aid programmes; dental programmes are instituted within the village; drinking water facilities are installed etc. Other companies have instituted more formal programmes under the auspices of foundations that go beyond job training and provision of health facilities to include support to encourage local small business enterprises, opportunities for advancement of women. As countries advance in setting up frameworks, it may be the time to consider including some form of social contract within the overall mining contract that assists with the process of achieving sustainability within a community perhaps even after the original "engine for growth" has departed.

D. Policy formulation: legal structure

68. Policy formulation, instituted within the legal and regulatory framework as promulgated by laws, is the most stable and transparent mechanism to instil confidence in a regime. This applies to mineral tenure, mining codes, tax regimes, investment regimes, environmental regulations, social policy and the like. Sustainability is achieved by capacity building in many discrete areas in order to facilitate long-term development. It is recommended that in line with the development and subsequent promulgation of laws pertaining directly to the minerals sector, that policy formulation take place concurrently in the socio-economic and financial sectors as well.

VI. CONCLUSION

69. In the past decade, many developing countries and economies in transition have recognized that private sector investment in mineral resources can provide a significant contribution to a country's economic base, and they have shifted development strategies towards relying on the private sector to lead economic growth. As an initial step, Governments, through the assistance of the United Nations, the World Bank and other multilateral and bilateral agencies, have adopted policies and put in place the initial frameworks designed to improve the enabling environment for this investment.

70. Reforms are slowly taking hold, and in the countries where the reforms are most advanced, perceptible improvements in the business environments are noticeable, and the private sector is responding through increased direct investment in the minerals sector with a corresponding multiplier effect into the economy, i.e. with job creation, the development of local small- and medium-sized enterprises and capacity building in physical, social and economic infrastructure.

71. While investment in the mineral resource sector can provide base-level contribution towards the socio-economic development goals of a country, mineral resources and capital, are by their very nature, finite resources. Therefore, the policies and supportive frameworks being instituted must take into account the overriding long-term country goal of sustained economic growth and sustainable development. Devising and implementing mechanisms that support the complementarity of roles between host Governments and investors are therefore paramount. As developing countries and economies move towards the next stage of capacity building, recognition must be given to the dual responsibility of providing an environment conducive to private investment while providing a foundation for achieving social equity.

Notes

1/ Economic Commission for Africa, submission for the preparation of a report to the Committee on Natural Resources at its third session, dated 26 July 1995.

2/ Economic and Social Commission for Asia and the Pacific, "Trends in legal/institutional arrangements for investment promotion in mineral exploration and development in the ESCAP region: review of mineral development policy and plans, including mining legislation, taxation and investment promotion issues" (undated).

3/ Don Newport, "A case study of the Zarafshan-Newmont Gold Project, Uzbekistan", paper presented to the Seminar on Project Finance for Mining in the Emerging Markets, Denver, Colorado, September 1995.

4/ R. Dennis O'Connell, "Battle Mountain Gold Company's Bolivian experience", paper presented to the Price Waterhouse Mining Conference, San Francisco, California, July 1995.

5/ International Monetary Fund Survey, "Chile's prudent policies have yielded sustained growth and reduced poverty", 6 November 1995.

6/ Peter van der Veen, "Attracting private sector mining investment", paper presented to the Seminar on Project Finance for Mining in the Emerging Markets, Denver, Colorado, September 1995

7/ Robert B. Parsons, "Taxation policy and mineral investment", Price Waterhouse paper.

8/ See Report of the World Summit for Social Development, Copenhagen, 6-12 March 1995 (A/CONF.166/9), chap. I, annex.

Annex

LIST OF CRITERIA FOR PRIVATE SECTOR APPRAISAL OF MINERAL SECTOR INVESTMENT CONDITIONS

The following "investor check-list" a/ itemizes the major criteria used for private sector appraisal of mining investment conditions abroad. It is based on a global survey and augmented from subsequent additional research.

Geological criteria

General mineral abundance

Efficient and helpful government offices (geological survey, department of mines, ministry for lands, financial offices, central bank)

Perceived geological potential compared with competing jurisdictions

Availability of reliable geoscientific information (e.g., topographic maps, geological maps, air photo coverage, airborne geophysics, geochemical data and geological reports)

Organization and accessibility of geoscientific information, reports in common form, preferably in English, centralized database, readily available

Historical production

Ability to apply geological assessment techniques

Availability of local trained personnel

Mines survey department

Availability of local laboratories

Political criteria

Long-term national stability

Regime stability

Consistency and constancy of mineral policies

Internal security

Stability of neighbouring countries

Availability of foreign investment insurance

Good governance - transparency and accountability

Open versus closed market economy

Indicators in place to formalize open market economy:

Privatization

Institutionalization of secure mineral tenure embodied in mining code

Democratic linkages

Access to external dispute settlement mechanisms such as international arbitration of conflicts

Development of social policy, i.e., health services, education, land reform, income redistribution, training

Entrepreneurial skills in place

Presence of domestic investment in productive sector

Regulatory criteria

Modernized mining code

Workable mineral legislation

Stability of exploration/mining terms

Mineral ownership

Surface/land ownership

Access to water rights

Security of tenure, length of tenure exploration and mining

Quality of mineral titles system

Ability to track private deals on top of original tenure

Right to transfer ownership

Availability of a mineral agreement to supplement or in place of mining code

Dispute resolution such as international arbitration

Level of bureaucracy

Procedural efficiency and clarification of administrative competency

Simple, effective and efficient permitting system

Rating for overall simplicity

Rating for consistency

Rating for completeness

Availability of good local mineral resource lawyers

Effective and transparent legal system

Fiscal criteria

Tax method and level of taxes (profit-based or not, fixed or not)

Ability to predetermine tax liability

Availability of accelerated depreciation

Availability of investment tax credits

Availability of reinvestment credits

Exploration cost treatment

Export-import credits

Stability of fiscal regime

Tax treaty with home country

Expatriate tax treatment

Competitiveness with other jurisdictions

Monetary criteria

Realistic foreign exchange regulations

Allowance for external accounts

Ability to repatriate profits

Ability to raise external financing to fund projects

Presence of strong local stock exchange

Presence of global banking institutions

Efficiency in monetary transfers

Operational criteria

Majority equity ownership held by company

Company has management control

Degree of established infrastructure and utilities

Experienced local workforce availability

Climatic conditions

Physical lay of land

Altitude

Availability of support services such as fabrication/maintenance/local geotechnical services

Transportation infrastructure, e.g., roads, railway, air, river, deep sea ports

Common language spoken

Constraints on use of expatriate staff

Restrictions on hiring, firing and negotiating wages

Technology required

Strength of labour unions

Additional support services

Effective communications systems, internal/external

Transferability of operating permits

Marketing criteria

Geographic location - proximity to end markets including access to transportation networks

Presence of internal markets

Presence of local competitive smelting and refining capability

Export/import policies and restrictions, e.g., mandatory sales of product to central bank

Regional trade agreements

Outlook for demand/price

Environmental criteria

Legal requirements for environmental protection

Ability to predetermine environmental-related obligations

Anti-mining groups

Relative sensitivity of environment

Profit criteria

Measure of profitability (internal rate of return, net present value, payback periods)

Competitive cost position

Other criteria

Prior company experience

Company employee prior experience

Specialized company expertise

Experience of other firms, joint venture partner experience

Helpfulness of government offices (geological survey, department of mines, ministry for lands, finance offices, central bank)

Availability of information on government, administration, fiscal, regulatory policies, geological information

Availability of key government personnel locally and abroad

Risk containment strategies available

Availability of political risk insurance (debt and equity portion)

Bilateral/trilateral protection treaty in place or negotiable

Mine development agreement

Degree of World Bank and other multilateral agency involvement in project, in country

Legislated protection for investors against expropriation, and currency inconvertibility

Notes

a/ Initial list, prepared for the Economic and Social Commission for Asia and the Pacific by Dr. James Otto, Assistant Director, Centre for Petroleum and Mineral Law and Policy, University of Dundee, United Kingdom, 1992; subsequently revised by Diana Manson and Associates, Ltd., Canada.

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DEVELOPMENTS IN SMALL-SCALE MINING

Report of the Secretary-General

SUMMARY

The present report has been prepared in response to Economic and Social Council decision 1994/308. The report reviews employment estimates in small-scale mining, and using examples from Africa, Asia and Latin America, describes the economic impact of small-scale mining on selected countries. It analyses new approaches and developments, focusing on the roles of Governments, the private sector, foreign capital, joint ventures, non-governmental organizations, lending institutions, local communities and women, and provides examples of the strategies that have been implemented. The report also reviews recent developments in the wake of conferences in the areas of health and safety, industrial minerals and artisanal mining, and summarizes the World Bank draft comprehensive strategy toward artisanal mining.

The report concludes by recommending that artisanal mining in developing countries and countries with economies in transition be viewed not only as a mining issue that requires mining expertise but also as a poverty and socio-economic issue that requires attention on a multisectoral level. The report calls for technical assistance in mining, as well as assistance in such areas as alternative income-generating activities, education, health and the advancement of women.

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INTRODUCTION

1. In its decision 1994/308 and upon the recommendation of the Committee on Natural Resources at its second session (22 February-4 March 1994), the Economic and Social Council requested the Secretary-General to submit to the Committee at its third session a report on developments in small-scale mining. The Committee recommended that the report include an evaluation of the importance of small-scale mining in the economies of developing countries and the economies in transition, as well as an analysis of new approaches and developments, focusing on the roles of local communities, the private sector, foreign capital and joint ventures, and also highlighting recent results obtained in specific areas of activity.

2. The present report is part of a continuing assessment of the field of small-scale mining by the Committee on Natural Resources. It addresses particular issues of small-scale mining, as recommended by the Committee in response to the report of the Secretary-General on small-scale mining activities in developing countries and economies in transition (E/C.7/1994/9). That report reviewed the environmental and social impacts of small-scale mining in selected regions; small-scale mining legislation and regulations concerning environmental protection; replicable small-scale mechanized mining operations; health and safety and the improvement of miners' working conditions; and the position and role of women in small-scale mining. It concluded that small-scale mining, particularly artisanal mining, had become a mainstay of many rural economies, and that a legal framework that recognized the characteristics of that type of mining was a prerequisite for formalizing the subsector and limiting its negative environmental impacts. Serious efforts were needed in (a) small-scale mining regulation and promotion, particularly to mitigate environmental damage, minimize social upheavals and curb smuggling; (b) institutional and capacity-strengthening; and (c) technology transfer. The report suggested that the Committee might wish to recommend that the United Nations system, according to its mandate and field of expertise, continue to better focus its activities in those areas.

3. A significant event in the field of small-scale mining since the second session of the Committee was the holding of an international round table on artisanal mining in May 1995, hosted by the World Bank in Washington, D.C. Following the precedent set for small and medium-scale mining by a United Nations interregional seminar on the theme "Guidelines for the development of small/medium-scale mining" (Harare, 1993), the round table had as an objective the development of a consensus for an appropriate strategy for the orderly, safe and environmentally sustainable development of artisanal mining. Based on the conclusions and recommendations made by the round table, the World Bank has subsequently proposed an assistance strategy, focusing on legal and technical actions, that emphasizes a partnership with international organizations, non-governmental organizations, government entities, artisanal miners and international mining companies.

4. The present report aims to address the issues requested by the Council. Section I describes the importance of small-scale mining for the economies of developing countries and economies in transition, both in terms of global

employment and based on country examples from Africa, Asia and Latin America. Section II analyses new approaches and developments in small-scale mining including the role of local communities, the private sector, foreign capital and joint ventures. Section III reviews reports on recent results obtained in specific areas of activity, as well as a discussion of the Convention on Safety and Health in Mines and an international round table on artisanal mining, for which the contribution of the International Labour Office (ILO) is gratefully acknowledged. 1/ Section IV contains conclusions and recommendations.

I. SMALL-SCALE MINING IN THE ECONOMIES OF DEVELOPING COUNTRIES AND ECONOMIES IN TRANSITION 2/

A. Employment estimates

5. Small-scale mining, particularly artisanal small-scale mining, is a labour-intensive activity that has seen a world-wide resurgence over the past 25 years. It provides employment to a significant number of people, most of whom live in remote areas where there are few other well-paid job opportunities. People working in small-scale mining, particularly artisanal miners, are generally unskilled labourers with little if any formal education. The average incomes earned from mining, however, are usually higher than subsistence wage levels, and are often higher than incomes paid in comparative formal employment in other sectors of the economy.

6. A summary of small-scale mining employment in selected countries for which estimates are available is provided in the table.

7. In the estimates provided in the table, a distinction has not been made between small mechanized mining and artisanal mining; it is recognized, however, that most of the people employed in the sector are employed in artisanal mining. In addition, given that much artisanal mining takes the form of informal or illegal activities, there is often a lack of reliable data. As a result, the estimates contained in the table are considered to be conservative.

8. Based on the world total provided in the table, the number of people active in small-scale mining world wide exceeds 6 million - more than 20 per cent of those active in the industry as a whole. If it is assumed that there are on average four additional family members per worker (a conservative assumption), then over 30 million people depend directly on artisanal and small-scale mining for their economic livelihood. If nine additional family members per worker are assumed as an upper estimate, the total increases to over 60 million people.

9. Of the more than 6 million people active in small-scale mining, a significant number are women. In many high-density artisanal mining districts, the percentage of females ranges from 10 to 50 per cent of the workforce. Women often work long hours as ore and concentrate carriers, panners, ore sorters or cooks, and most of them are also engaged in child-rearing.

Small-scale mining employment

(Thousands of workers employed)

Country	Estimated employment	Data source a/
China	3 000	Jennings (1993)
Brazil	1 000	Davidson (1990)
India	500	Chakravorty (1989)
Zaire	500	Jennings (1994)
Indonesia	465	ILO (1990)
Philippines	250	Muyco (1993)
United Republic of Tanzania	100	Noetstaller (1994)
Mali	100	World Bank (1992)
Sierra Leone	100	World Bank (1992)
Bolivia	70	Priester (1996)
Burkina Faso	60	World Bank (1992)
Guinea	60	World Bank (1992)
Ghana	30	World Bank (1992)
Angola	30	World Bank (1992)
Zambia	30	World Bank (1992)
Zimbabwe	30	World Bank (1992)
Peru	20	ILO (1990)
World total	6 345	Jennings (1993)

Source: Noetstaller (1995), with additions from Muyco (1993) and Priester (1996) (see references at end of text).

a/ See references at end of text.

10. In the case of artisanal mining, a particularly unfortunate and unacceptable phenomenon is the use of child labour, usually in extremely poor areas where families depend on their children's pay as part of the household income. Because of their smaller size, child labourers are used to mine hard-to-reach deposits, haul ore or concentrate, or assist in preparing food. Due to the illegality of child labour and the remoteness of the areas in which

it is prevalent, estimates on the number of children engaged in such activities are not readily available.

B. Economic impact of small-scale and artisanal mining: selected examples from Africa, Asia and Latin America

1. Africa

11. Small-scale mining employment and activities in Africa have increased substantially during the last 15 to 20 years. One reason for the resurgence was the crisis in the mining industry of the 1970s and 1980s, when there was a strong reduction in the demand for mineral raw materials, drastic falls in mineral prices and a strong decline in investment in large-scale mining operations. During this crisis, many African countries saw small-scale mining as a means to diversify their mineral production and reduce their dependence on one mineral for export revenues, a dependence that had painful fiscal implications during the declines in mineral prices. Another advantage of developing small-scale mining was that it required less rigorous financial and technical conditions and therefore had less substantial initial investment costs.

12. A second reason for the resurgence of African small-scale mining, leading particularly to an increase in artisanal mining, was the effect of natural disasters, particularly the droughts of 1973-1975 and 1984-1985 in southern Africa. Those droughts led many rural populations, whose crops had been decimated, to find other sources of survival. Artisanal mining gave many of them a relatively rapid income, and with its high labour intensity, provided an answer to underemployment. It also reduced the amount of rural to urban migration that would have taken place had that alternative not existed.

13. Although there is a large variety of minerals mined, they can be generally divided into four major groups: precious and semi-precious minerals, including gemstones; heavy minerals; industrial minerals; and base minerals. Of the four groups, the majority (58 per cent) of small-scale mining activities are in the precious and semi-precious minerals group, with gold being the most important, making up 52 per cent of the precious and semi-precious minerals mined (see NRD/MRU/TP/1/92).

14. At the country level, the economic impact of small-scale mining can be very significant. In Zimbabwe, gold is important for the country's economic well-being, contributing, on average, 36 per cent of mineral export earnings since 1986. The number of small-scale miners, comprised of single owners or cooperative producers, has increased significantly since 1980. The contribution of the small-scale mining sector to official gold output has risen dramatically in the early 1990s, from 5 per cent in 1988-1989 to about 30 per cent in 1993 (see UNCTAD/COM/45, pp. 11-12). The rise in the sector's official contribution is mainly due to the steps taken for the formalization of the originally illegal miners.

15. In addition to the formalized small-scale miners, there are also many illegal miners, such as alluvial gold panners, many of whom are working to

complement other sources of interest. Not all production from such illegal activities is accounted for, since most of the output is lost to the parallel market, which is estimated to have lost the country an estimated 100 million Zimbabwe dollars (15.4 million United States dollars) in foreign exchange in 1992 (see UNCTAD/COM/45, p. 13).

16. Ghana has also taken several steps to formalize small-scale mining. In 1989, small-scale mining was legalized through the Small-Scale Mining Project; since then, 30,000 artisanal miners have brought in US$ 68.56 million in gold and US$ 71.5 million in diamonds during the period 1989-1994 (Nyameke, 1995). Many of the deposits worked were abandoned waste dumps, the value of which would not have been realized without the resourcefulness of the artisanal miners.

17. In the United Republic of Tanzania, the economic significance of artisanal mining has increased rapidly since the implementation of a mineral trade liberalization policy in the late 1980s, which introduced private mineral dealers and allowed semi-legalized artisanal mining in new mine-rush areas. The contribution of the mineral sector to gross domestic product (GDP) increased from 0.4 per cent in 1987 to 1.5 per cent in 1994, an average increase of 24 per cent per year (United Nations, 1993). Government revenues from such activities have increased, along with employment levels and the income of the mainly rural people directly involved in mining. The minerals most favoured by artisanal miners are gold, diamonds, salt and such industrial minerals as mica and gypsum.

18. In some countries, small-scale mining is the dominant or only form of mining of certain minerals. In the Central African Republic, where gold and diamonds make up the totality of the mineral exports, 100 per cent of the gold production and 90 per cent of the diamond production is carried out by artisanal miners. This is a significant contribution to the Central African Republic's economy, where diamond exports alone were valued at 2,133 million CFA francs (US$ 4,350 million), or approximately 8 per cent of total national export revenues (Bocoum and Samba, 1995).

19. In Guinea, the national share in gold production of small-scale mining was 66 per cent in 1990, 74 per cent in 1991 and 78 per cent in 1992. In 1993, it represented almost 100 per cent of national production, since the activities of the only medium-scale production were interrupted in 1992 with a view to restructuring and seeking new partners. In the case of diamonds production, the share of small-scale mining in national production was approximately 52 per cent (United Nations, 1993).

2. Asia

20. Small-scale mining is prevalent in many countries in Asia, with over 4 million people working in this sector in China, India, the Philippines, Indonesia, Malaysia and other countries.

21. In China, as of 1992 there were 167,351 privately run small-scale mines, of which 82,921 cover coal, metals and building construction material, with the other 84,430 mines in clay and quarry for the construction of highways, railway

lines and irrigation projects (Jin, 1995). A large proportion of the small-scale mining is coal mining. From 1980 to 1988, the annual output of coal produced from small-scale coal mines, including coal mines run by prefectures, counties, towns, villages and individuals, doubled to a level of 520 tons, accounting for 53.6 per cent of the total national output. During that same period, the total number of local coal mines increased from 20,000 in 1980 to over 80,000 in 1988, of which 79,000 mines were run either jointly or independently by counties, towns and individuals (see TCD/NRED/E.13, p. 23). The growth was encouraged by a series of policies implemented during that period by the Chinese Government, including a relaxing of control on ownership, technical support, and preferential treatment for taxes and interest on loans. More recently, however, due to environmental damage from the small-scale mines and serious concern about mine safety, the Government has been scaling back the preferential treatment.

22. In the Philippines, there are an estimated 250,000 or more miners employed in small-scale mining, spread out in almost half its 80 provinces (Muyco, 1993). Legislation and incentives introduced in 1984 and 1991 to promote the development of the small-scale mining sector through land and mineral rights reform have opened up new reserves, provided rural employment and stimulated rural development.

23. Some problems that the Government has encountered, however, include black markets and the associated lack of tax revenues from small-scale producers who do not officially declare their production. In 1992, official production from small-scale operations accounted for just over 25 per cent of the national gold output of 29,138 kilograms (kg). The unofficial production, however, is even greater. According to a government study, the actual total gold production by small-scale mines in 1989 was estimated to be more than 26,000 kg, whereas the official total for that year was 8,228 kg (Mining Journal, 1995). It is also difficult for taxes to be collected from the official output due to the remoteness and inaccessibility of mining areas, security problems, and the rapid mobility of the miners.

24. Small-scale mining in the Philippines is also active in the mining of metallurgical chromite ore, producing 221,000 metric tonnes in 1989 to 1990, 90 per cent of the country's total metallurgical chromite output (Muyco, 1993). There is also a small-scale mining interest in non-metallic deposits, such as marble and other stone building materials, clay deposits and industrial minerals.

25. In India, small-scale mining plays a very significant role in the national economy. Of the approximately 60 minerals mined in India, 38 are mined uniquely in small mines from small deposits that are located all over the country, and 85 per cent of the 4,200 mines that report to the Government are small mines. Employment in all small mines, both those that report to the Government and those that do not (of which there are an estimated 4,000 to 5,000), is projected to be approximately 500,000 miners (Chakravorty, 1994).

26. In total, 36 per cent of all non-fuel mineral production in India comes from the small mining sector, where small-scale mines are classified as those producing up to 100,000 tonnes per year. The small-scale sector accounts for

15.5 per cent of limestone production, with 85 per cent of the number of mines being small mines; 9.5 per cent of iron ore production, with 80 per cent of the mines; more than 13.6 per cent for bauxite, with 93 per cent of the mines; and more than 60.5 per cent for manganese, with 97 per cent of the mines. As for other minor minerals, small-scale mining is responsible for about 70 per cent of the national production. In addition, the small-scale mining sector provides 36.9 per cent of mineral export earnings, and contributes an estimated 0.17 to 0.20 per cent to the Indian gross national product (GNP) (Chakravorty, 1994).

3. Latin America

27. It is estimated that there are over 1 million small-scale and artisanal miners operating in Latin America, with the bulk of them in Brazil, Bolivia, Venezuela and Chile. In production and employment, small-scale mining forms a major and, in certain countries, predominant component of the mineral industry, as can be seen from the following examples.

28. In Brazil, between 1979 and 1994 845 tons of gold was extracted by garimpeiros (small-scale/artisanal informal miners), mostly from the Amazon region. Of the total Brazilian gold output to date, garimpo (small-scale/artisanal informal mining) activity has contributed 2,650 tons, or approximately 78 per cent of the total. Average annual production rose from 5 tons per year in 1970 to a high of 78 tons per year in 1990, which was the major factor behind the production growth rate of 13 per cent during the period 1969-1990, the highest in the western world. Income derived from this activity reached segments of the population other than the miners themselves, and indirect employment is estimated to be of the order of 2 to 4 million people (Arantes, 1995).

29. Recently, patterns of production have been changing: increasing operating costs, falling gold prices and the exhaustion of alluvial reserves have significantly reduced garimpo activities since 1989. Average annual production has dropped from an average of 72 tons in 1983-1989 to 38 tons in 1990-1994 (Arantes, 1995).

30. In Chile, artisanal miners extract US$ 10 million worth of copper, gold, silver, zinc and lead, while the more organized small-scale producers have outputs of US$ 40 million of those metals in raw form and US$ 139 million in ore concentrates. There are estimated to be 8,000 highly transient artisanal miners; however, this number varies widely, depending on season, alternative work opportunities and metal prices. The average income for an artisanal miner is $150-230 per month, yet the miners live under poor social and economic conditions that obstruct the success of assistance programmes based only upon productivity increases (Astorga, 1993).

31. In Bolivia, employment in small-scale mining is approximately 70,000 workers, of whom about 50,000 are affiliated cooperativists, about 20,000 are not affiliated with cooperatives, and less than 1,000 small-scale miners act independently as private, self-employed entrepreneurs. The national mineral production of small-scale mining was US$ 153 million in 1993, rising to US$ 170 million in 1994 (Priester, 1996). That production occurred under severe

social and economic conditions, due to the Bolivian Government undertaking a structural adjustment and a slimming down of State enterprises during that period and international agencies retreating from co-financing government promotion schemes. The combined effect of those events was the occurrence of an economic vacuum for the small-scale mining sector, since the assistance that it had once enjoyed was no longer available.

32. Recently, however, with large quantities of unused mining equipment from the State mining company COMIBOL, the Government of Bolivia is studying the possibility of privatizing those unused mining tools and equipment for the benefit of small-scale miners. In addition, a donor country is working with the Government and small-scale mining organizations to assist in the conceptualization of a non-government institution that would offer services to the sector, including the cooperative and small private mines.

II. ANALYSES OF NEW APPROACHES AND DEVELOPMENTS

A. Government

33. The mining industries in many developing countries and countries with economies in transition are currently in a period of transition following the dissolution of former State-controlled companies, with Governments allocating mineral resource development to the private sector. Accordingly, the role of Government is being redefined.

34. In the context of small-scale mining, the Government's role takes on great significance, since in most cases it is the only organized body with the ability to direct such activities to an efficient and sustainable course. In some instances, Governments are taking on the task of formalizing the sector. A major obstacle that impedes such formalization is the lack of a formal or permanent legal entity: together with the migratory nature of artisanal miners, this results in a problem in accountability, precluding any administrative control over the sector. Other obstacles include lack of funds for such administration, an established black market, and even traditional ties to illegal traders and drug dealers, who not only offer prompt payment but can often pre-finance operations.

35. To facilitate formalization, it has been recognized that registration procedures and regulatory compliance can be simplified for subsistence miners in order for them to operate in a favourable institutional and legislative regime. The question of transferable mineral rights, a principal issue for the artisanal miner, still needs to be answered in many developing countries. The Government is also in the best position to take on the duty of collecting detailed information and monitoring small-scale mining activities: such baseline data can help in the formulation of and modification of relevant policies.

36. Below are a few examples that describe some of the strategies that have been implemented, most of which include legal reform, increased recoveries through better equipment and training, licensed traders replacing government buying agencies, access to finance, marketing assistance and tax breaks.

37. In the Philippines, the Peoples Small-Scale Mining Law, passed in 1991, decentralized the permit process and placed it in the hands of local regulatory boards. The Law mandates that land be reserved exclusively for small-scale mining, while encouraging the cooperative as a basic working unit and the recipient of permits. There are provisions relating to government extension of technical and financial assistance, including such services as laboratories, mills and marketing services.

38. In the United Republic of Tanzania, the National Promotion Protection Act of 1990 has resulted in increased applications for prospecting, mining and dealing licences. Import restrictions were lifted for mining equipment to encourage the development of the sector. Even more significant was the initiation of open markets for dealers and international gem fairs, at which foreign buyers have the opportunity to establish direct business relationships with the gem dealers. In its legislative reform, the Government has paid particular attention to the small-scale miners. Of particular note is the removal of constraints formerly preventing the sale or transfer of mineral rights. Training is provided through the government-supported Madini Centre. In sum, the United Republic of Tanzania has addressed some of the main concerns of independent miners: security of tenure, transferability of mining rights and liberalized markets.

39. In Chile, the Empresa Nacional de Minería, known as ENAMI, is an autonomous public company that buys minerals and concentrates from small and medium-scale mines, serving as the marketing conduit for miners who would otherwise not be able to operate alone because of the heavy financial burden of direct small sales operations. ENAMI also serves as a source of credit and technical assistance, as well as carrying out exploration and development studies.

40. In Zimbabwe, government assistance takes the form of technical support, management services, plant hire schemes and advisers, with most of these services channelled through the parastatal Zimbabwe Mineral Development Corporation (ZMDC). ZMDC has been one of the main agents, together with local and international non-governmental organizations, responsible for the organized growth of the small-scale mining centre. The joint effort of the Government and non-governmental organizations is seen as a model for other countries to follow.

41. Ghana has also been acknowledged as a leader in the promotion of small-scale mining enterprises. The Small Scale Mining Project, financed by the World Bank and the Deutsche Gesellschaft für Technische Zusammenarbeit, administered new laws legalizing small-scale mining and provided technical and marketing assistance and simple licensing procedures. The revenues from fees collected are shared with the local authorities to help them control the activities in their areas. District centres were set up to register claims and offer technical advice. Mobile licensed dealers operated in the districts, facilitating rapid transactions. The institutional framework is supported by the increased revenue collected from the mining activities.

42. The approach used in Venezuela is similar to other developing countries, in that a parastatal organization is used as a vehicle for developing the sector. In this case, the Corporación Venezolana de Guayana (CVG) is entrusted with all gold exploration and development, including small-scale mining. To assert

control over activities, miners were organized into accountable bodies and special areas were reserved for artisanal mining. Fourteen small-scale mining zones were created; however, contracts were only awarded to entrepreneurs and cooperatives, and not to individual subsistence miners.

B. The private sector

43. Recently, many large companies seeking to establish operations in developing countries have concerned themselves with the small-scale mining issue, establishing specialized divisions that deal with community relations. Conflict resolution and the practice of placing the firm's presence in a position of mutually beneficial coexistence with the local community are now being incorporated into the development plans of many large-scale ventures. In some cases, artisanal miners are given marginal parts of the company's concession and/or are allowed to rework tailings, and some companies are also willing to extend credit services and financing.

44. The foreign-based private sector can, in cooperation with the Government, play a constructive role in the promotion of a small-scale mining industry, and can collaborate in the upgrading and improvement of artisanal activity. Its own direct involvement in small-scale mining may be limited, but its presence in a developing country has the potential to have a positive influence on smaller operations. Cooperation and assistance can take a variety of forms, including joint ventures with local entrepreneurs in mining and the provision of ancillary supplies and services; initiating complementary work and marketing relationships with indigenous small-scale producers; lending expertise to both the Government and producers; voluntarily returning marginal or small deposits to the national mineral inventory; and joint or sole sponsoring of demonstration projects, training programmes or mining schools. The private sector, both domestic and foreign, can also participate as equity owners and developers in marketing and fabrication ventures (value-added activities), as licensed buyers and as equipment manufacturers and distributors.

45. There are a number of countries in which complementary and non-competitive relationships of convenience have emerged between small miners and multinational companies. Companies have allowed artisanal miners to rework tailings and operate in abandoned sections of functional mines, as well as in marginal areas of the concessions, with agreements to sell at least part of the production to the company. Such possibilities are being utilized by the chromite cooperatives operating on the Great Dike in Zimbabwe.

46. In some instances, such relationships may have the effect of ultimately replacing artisanal and small commercial mines in the area with large-scale mechanized operations. However, they often provide local miners and claim-holders with a share of returns as well as employment and training opportunities.

47. Some of the major international mining houses have initiated contact with local mining cooperatives and communities holding mining rights or already operating on gold deposits with large production potential. For example, Mitsubishi made overtures to the miners' cooperative at Serra Pelada Brazil,

while Rio Tinto Zinc entered into an agreement with a San Luis cooperative in Ecuador.

48. In addition to the above-mentioned role of large multinationals, the formation of independent foreign investor groups with an interest in mining may facilitate new paths of development for small commercial operations. However, in many instances where investor groups have entered into partnerships, such attempts have been beset with difficulties, such as a lack of well-defined guidelines and administrative procedures for acquiring concessions, permits and imported equipment. Their tactical need to collaborate with local counterparts in management and risk-sharing, however, has the potential to contribute to the development of an indigenous mining sector. To date, most of the sustainable relationships between foreign entrepreneurs and local miners have been on the level of marketing, with foreign investors buying output from the miners, and in some cases, limited debt financing.

49. Artisanal miners are responsible for many precious metal and gemstone discoveries through their habit of effectively covering the ground. They can therefore exploit their abilities in proving deposits and then promoting them to major mining companies on a joint venture basis, an approach that has so far been underutilized.

C. Non-governmental organizations and lending institutions

50. The activities of local and international non-governmental organizations and development banks benefit the subsector by facilitating information flow and networking (markets, resources, technology etc.), participating in the development of technology, including its demonstration and diffusion in the field, strengthening local miners' associations and support groups, conducting training programmes, providing access to credit and loan funds, and in some cases, enhancing investment promotion and marketing. Because of the subsistence nature of much small-scale and most artisanal mining and the general lack of capital, international donors, technical assistance agencies and development banks can fill the role of sponsors and project executors in the areas of baseline studies and technology development. The compilation of mineral inventories and databases, the production of training materials and institution strengthening are activities that are critically in need of funding.

51. It should be noted that the involvement of State banks and lending institutions has often been characterized by disappointing results, the most frequent reason being failure on the part of the borrowers to repay their loans. That was one reason why the Banco Minero of Bolivia and Peru, a bank that did business with small-scale miners, was forced to close. Regional banks are usually better able to absorb such losses, and therefore may be in a better position to take risks and at the same time impose more stringent conditions. For example, the Asian Development Bank has had success with a loan programme for small-scale coal mining in the Philippines.

52. However, non-governmental organizations may be the most suitable agencies for financing small-scale projects, since they do not necessarily require a direct return on their funds to keep operating, with the exception of revolving

fund programmes. For example, the Proyecto de Investigación y Aplicación de Technolgía Apropriada, active in the Puno region in Peru, has aided the Santiago Ananea mining cooperative in improving mining techniques, which has enabled miners to raise recoveries and increase production: the increased revenue was ultimately used to create additional employment and upgrade public services. In Chile, the Centre for Mining and Metallurgy conducts extensive training programmes for small-scale miners; in Ecuador, the Cenda Foundation has had much success in providing technical assistance that is backed by community-wide efforts, emphasizing both community development and environmental management.

53. This type of non-governmental organization assistance can be used as a policy instrument for the formalization of artisanal mining activity by encouraging the formation of small-scale miners associations, which become receiving and distribution points for assistance programmes. Channelling aid through such organizations encourages migratory miners to register and become part of a formal arrangement; the Small-Scale Miners Association of Zimbabwe is a well-known organization in that category.

D. Local communities

54. In discussing the role of local communities, a distinction can be made between traditional mining and gold-rush mining. The former is in general more sustainable and orderly, and while much of the difference is due to the nature of the deposit being worked, the role of the community can make a large difference in the character of the mining activity. Issues that local communities can address are the relationship between the community and mining associations, the level of local government involvement, and the improvement of human resources and quality of life.

55. In Ghana, where traditional mining dates back to pre-colonial times, district mining committees have been set up comprised of all parties within the community that have a vested interest in the project, and they work with the local village councils. However, the role of such committees has often ended up being limited.

56. Mining villages in the United Republic of Tanzania have resulted in schools, health centres and shops being built by miners through self-help schemes organized by village leaders. Village authorities, including mining committees, maintain the security of their people.

57. However, when there is gold-rush mining, the role of the local community becomes more problematic. The transient nature of gold-rush mining can greatly disturb the life of a local community, many of whom are ill-prepared to deal with its effects, particularly communities made up of indigenous people. In such instances, there is a strong case for outside intervention.

E. Women

58. Estimates that measure the extent of women's participation in small-scale and artisanal mining activities indicate that women form a significant component

of the human resources in the subsector, and in some areas, are even the predominant participants. In Guinea, 75 per cent of artisanal miners are women, and women represent 50 per cent of the miners in Madagascar, Mali and Zimbabwe, and 40 per cent in Bolivia. In Ghana, 75 per cent of the salt traders of mined salt are also women.

59. Women take part as concession owners, hawkers and providers of services and goods, labourers, dealers and buying agents, and equipment owners who hire out such items as shovels, pans and food preparers. Women have traditionally performed the panning and extraction of such minerals as gold, diamonds and salt in Ghana. Their recognized entrepreneurial talent for trading and commerce is a part of their cultural heritage, and is the reason that women should be considered valuable contributors to artisanal mining.

60. In order to properly take into account both the actual and potential role of women in small-scale mining, assistance programmes should address the constraints on women's participation, and should work to provide women an even playing field. Constraints most often take the form of lack of literacy skills for the administrative procedures required for concession holding, the difficulties in obtaining credit access, and a lack of technical skills, which hampers the full potential of women's involvement, often relegating them to subsidiary roles in the mineral industry. One way for women to circumvent such difficulties is in the formation of cooperatives, since cooperatives have easier access to credit and can hire managers to deal with administrative and technical issues. This also translates into less demand on their time, which is shared by domestic responsibilities.

61. It has been noted that development assistance in small-scale mining has often been more accessible to men than to women. In order to resolve that disparity, a methodical approach towards recognizing and incorporating the needs of women should be taken with an aim to better designing such programmes. This should result in development projects that will be better structured to address human resource development as a whole and improve the living standards of all segments of the population. This entails collecting the relevant disaggregated data and discussing the possible remedial policies with the appropriate institutions and organizations. The two steps can be combined into a participatory data-gathering exercise, involving mining operators, labourers and government officials.

62. Discussions should be held with miners, government officials, lending institutions, and relevant non-governmental organizations on such issues as technical and managerial training, financial assistance and establishment of credit lines for women's groups, how to further empower women economically in mining ventures, safety and health for the children who accompany their mothers and women themselves, and other issues. Implicit in the steps is the involvement of women at all levels.

III. RECENT RESULTS OBTAINED IN SPECIFIC AREAS OF ACTIVITY

A. Safety and health in small-scale mines 3/

63. Mining is often a hazardous industry, more so than most. World wide, the formal mining sector employs only 1 per cent of the workforce but accounts for almost 8 per cent of fatal accidents at the workplace. The acknowledged underreporting of accidents makes the true toll likely to be even higher, particularly when one takes into account the fact that in many countries, the number of people working in small-scale informal or underregulated mines considerably exceeds the workforce in the larger-scale formal mining sector. Much of such employment is in rural areas, where it is important in alleviating underemployment. Unfortunately, however, many such jobs are precarious and are far from conforming with international and national labour standards. For example, child labour is not unknown in small-scale mines. Moreover, where there are statistics, they tend to show that the rate of occurrence of fatal accidents in small-scale mines is routinely six or seven times higher than it is in larger operations, even in industrialized countries. That is not to say that there are no safe, clean small-scale mines: there are, but they tend to be in the minority. The situation concerning non-fatal accidents and occupational diseases is even less certain because of the almost total lack of reliable data. Anecdotal evidence points to a sorry state of occupational health and safety at work sites themselves and also in neighbouring living and farming areas.

64. The geographically scattered nature of small-scale mining activity, its rapid rise during gold rushes, the lack of resources in mines inspectorates and a desire to avoid drawing attention to illegal or quasi-legal mining have perpetuated the lack of information on what is increasingly an activity of considerable economic importance. The fact that small-scale mines are generally outside the scope of activities of employers' and workers' organizations - which in the large, formal sector have rights, obligations and an influence on mining operations - means that the State has to shoulder all the responsibilities for managing small-scale mining.

65. The Convention on Safety and Health in Mines and an accompanying recommendation were adopted by the International Labour Conference in 1995 after two years of intense discussion. The Convention, when ratified, has the force of law. The recommendation sets out in detail an internationally agreed benchmark to guide national law and practice.

66. The Convention covers all mines. While there are provisions for excluding certain categories of mines, provided the overall protection afforded at such mines is not inferior to that which would result from the application of the Convention, plans for progressively covering excluded mines must be made. Since mines regarded as illegal would presumably be excluded for all time, the importance of bringing small-scale mines progressively into the formal sector increases.

67. The Convention specifies procedures for reporting and investigating mine disasters, accidents and dangerous occurrences, and the publication of relevant statistics. It covers employers' responsibilities to eliminate or minimize risks to the safety and health of workers in mines, as well as addressing the

rights and duties of mine workers in relation to safety and health. It refers to the establishment of inspection services to ensure the effective enforcement of its provisions.

68. It should be stressed that it is not necessary for a country to ratify the Convention for it to put its provisions into effect. Ratification is often a lengthy process and the provisions are already being included in collective agreements in several countries. In addition, the Convention sets minimum standards, and there are many mining countries that already have safety and health regulations that exceed the provisions of the Convention. The objective is to enable those countries that do not have adequate legislation to achieve an agreed minimum level and, in ratifying and implementing the Convention, to be included in the supervisory procedures of the International Labour Organization (ILO).

69. International and national mining trade unions are mounting an unprecedented effort to obtain quick and widespread ratification of the Convention. They also recognize that, because many small-scale mine workers are not represented by trade unions, they have a special role in helping such mine workers, many of whom work under very poor and dangerous conditions.

70. An important issue for many developing countries will be the strengthening of their competent authorities in order to ensure that the Convention's provisions are being followed. With infrastructure geared towards the well-developed formal mining sector, the sudden influx of small-scale mining activity would stretch the most efficient authorities, let alone those that are already poorly staffed and funded. External assistance may be required to bolster the size and technical competence of mining inspectorates. The ILO, in conjunction with other agencies, where appropriate, will assist in this regard.

71. It is hoped that the new mining Convention that has set the principles for national action on the improvement of working conditions of the mining industry will be widely ratified, and will lead to significant and lasting improvements in safety in mines large and small.

B. International conference on small-scale mining business in the north-western Russian Federation and international experience

72. An international conference on small-scale mining business in the north-western Russian Federation and international experience was held in Petrozavodsk, the Russian Federation, from 20 to 23 September 1995. The conference was organized by the Institute of Geology of the Karelian Research Centre and the Committee for Geology and Utilization of Mineral Resources of the republic of Karelia, and was supported by the government of the republic of Karelia, the International Agency of Small-Scale Mining (Canada) and the delegation of the Commission of the European Community to the Russian Federation. Karelia is an important non-metal ore region of the Russian Federation and a source of various industrial minerals, such as muscovite, feldstar, quartz, shungite, natural stone and carbonate rocks. The conference

was attended by 115 participants, including representatives from Bulgarian, British, German, Finnish and French companies and organizations.

73. In the 28 papers presented, the major issues covered were an analysis of the mineral potential of the Komi republic, as well as the Novgorod, Vologda and Murmansk regions, as a basis for the development of small-scale mining; geological-economic analysis of some types of mineral raw materials, their potential utilization in small-scale production and methods for computer-based assessment of deposits; analysis of the world-wide experience, market and regional conditions for the development of small-scale mining in the Russian Federation; experience accumulated by small companies; and the technology of mineral treatment. The conference also drafted a resolution that included a recommendation for the setting up of a public association of small-scale mining companies in the north-western Russian Federation and a request to the government of the republic of Karelia that it enact special laws for small-scale mining.

C. International round table on artisanal mining and the World Bank draft comprehensive strategy towards artisanal mining

74. An international round table on artisanal mining was convened in Washington, D.C., by the World Bank in May 1995. A group of 80 invited delegates from 25 countries attended. The delegates included representatives from international bodies, including the United Nations Secretariat, Governments, non-governmental organizations, international mining companies and the artisanal mining community itself.

75. The purpose of the meeting was to facilitate the exchange of views and experience of those associated with the subsector in different parts of the world, to assist delegates in developing strategies for dealing with this type of mining in their respective countries, and to provide input to the World Bank to formulate its own policy for the subsector. While there have been previous international seminars and meetings that have had artisanal mining in their agendas, such as a United Nations interregional seminar on the theme "Guidelines for the development of small/medium-scale mining", held in 1993 in Harare, the round table is the first international meeting to be convened expressly to discuss the problems of the informal mining sector: previous international conferences considered artisanal mining within the broader scope of small-scale mining.

76. The emphasis on artisanal mining is consistent with the objectives of the main international development funding organizations, such as the World Bank objective, stated at the round table, to alleviate poverty and improve living standards through sustainable growth and investment in people, and the United Nations Development Programme (UNDP) objectives of poverty alleviation, environmental protection, job creation and promotion of the advancement of women. It is also consistent with the trend in many developing countries, particularly in Africa, of a significant increase in the growth of the informal sector.

77. Based upon the discussions, conclusions and recommendations of the round table, a comprehensive strategy towards artisanal mining was prepared in draft form by the World Bank in August 1995. This document is a proposed strategy for assisting artisanal mining within the context of a mining sector reform programme aimed at improving the policy, regulatory and institutional conditions for attracting private mining investment. The overall objective of such assistance is to transform informal mining into environmentally sustainable, legally structured, formal mining.

78. The first priority of the proposed strategy is to create a conducive environment for private mining investment by reforming mining legislation and taxation regimes and strengthening public mining institutions. Once such proper regulatory and institutional capacities are in place, the strategy calls for a baseline survey to assess the problems and constraints of the artisanal mining sector so as to determine target areas for assistance. An action programme can then be prepared, based on the survey results, with a view to: (a) establishing enabling conditions for artisanal mining, (b) alleviating technical and financial constraints, and (c) improving the environmental, living and working conditions of miners. The action programme will then call for a partnership and establishment of roles between the Government, non-governmental organizations, artisanal miners' associations, international donor agencies and international mining companies.

IV. CONCLUSION AND RECOMMENDATIONS

79. Small-scale and artisanal mining is a significant economic activity that has seen a world-wide resurgence over the past 25 years, particularly in artisanal mining. Serious efforts are still needed in small-scale mining regulation and promotion, particularly to mitigate environmental damage, minimize social upheavals and curb smuggling.

80. Artisanal mining should be legalized and formalized to promote its growth. A legal framework that recognizes the existence and characteristics of small-scale and artisanal mining is a prerequisite for its formalization and for limiting its negative impacts. In particular, artisanal mining needs to be mainstreamed, and in many cases, alternative employment opportunities need to be created for these miners so as to ease the pressure on the natural resources and the environment.

81. Governments, local communities, the private sector, non-governmental organizations and the international community have significant roles to play in improving the lives of artisanal miners and their dependants. As many innovative solutions have shown, assisting miners and their families means more than providing assistance from a mining perspective. Confronting mining issues, such as the technical, legal and financial constraints faced, as well as environmental pollution and degradation, is necessary but not sufficient for solving the problems inherent in artisanal mining, since one of the problems associated with this type of mining is that it may create immediate income but often does not create improved living conditions or social development for the regions in which it occurs.

82. It is recommended that an approach be adopted that expands the way artisanal mining is viewed from a sectoral, mining issue into a multisectoral issue of socio-economic development. While experts in mining are well aware of the benefits and problems of artisanal mining, the multisectoral approach would include community development sociologists, economists, legal experts and public health experts so as to generate multisectoral development initiatives. Assistance in such areas as alternative income-generating activities, health, education, women's empowerment and environmental awareness provide a necessary complement to mining assistance that can increase productivity and income while reducing environmentally unsound mining practices. It is also a more holistic and people-centred development approach that would expand the audience of those receiving information about artisanal mining, and would make small-scale mining assistance more palatable to Governments and donors.

83. Small-scale mining should therefore be viewed and approached from the broader view of socio-economic development and poverty eradication. For a large number of the people of the world involved in artisanal mining, mining activities serve as a safety net by providing income during difficult economic times. Since most of these activities occur in rural areas, artisanal mining is an effective weapon against rural poverty and rural-to-urban migration, and should be supported as such. When a Government moves to create a more enabling environment for artisanal miners, it is also increasing the access of its people to an income safety net and their ability to deliver themselves from poverty. Assistance to the sector can also serve as an important conduit for providing much needed social assistance to the people and areas concerned.

84. This conclusion is offered as a basis for discussion so as to enable the Committee to delineate the priority areas for future action related to small-scale and artisanal mining. Given the continuing importance of small-scale and artisanal mining in the developing countries and the countries with economies in transition, and the multifaceted needs of the sector, the Committee may wish to keep under review the opportunities available and efforts under way in this sector. In particular, given the importance of artisanal mining as an economic safety net, artisanal mining may provide an area for increased action in holistic, multisectoral socio-economic development.

Notes

1/ Contributions concerning the activities in small-scale mining of the Economic Commission for Africa, the Economic Commission for Latin America and the Caribbean, the Economic and Social Commission for Asia and the Pacific, and the United Nations Industrial Development Organization are also gratefully acknowledged. Those contributions have been included in the report of the Secretary-General on technical cooperation activities of the United Nations system in mineral resources (E/C.7/1996/7).

2/ The Committee originally requested a quantitative evaluation of the importance of small-scale mining in developing countries and countries with economies in transition. However, given the general unavailability of

quantitative data in this area, the present evaluation has had to be made based on the limited information available.

3/ The information on which this section is based was provided by the ILO.

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